

STORE EJECTION SYSTEM WITH INTEGRAL ISOLATION VALVE
AND ASSOCIATED EJECTION METHOD

ABSTRACT OF THE DISCLOSURE

There is provided a store ejection system and method for mounting and ejecting a jettisonable store. The system uses a pressurized non-pyrotechnic fluid from a fluid source as the source of energy and the transfer mechanism. An actuation
5 system includes an accumulator for receiving and storing the fluid from the pressure source, a poppet valve for controlling a flow of the fluid from the accumulator, and a controller for actuating the poppet valve to an open position in response to a control signal to jettison the store. A pneumatically-driven jettison mechanism for releasably retaining the store is fluidly connected to the poppet valve such that actuating the
10 poppet valve to the open position releases the pressurized fluid in the accumulator to flow to the jettison mechanism, thereby actuating the jettison mechanism to jettison the store. An isolation valve, which is configured to selectively provide gas to the accumulator, can be operatively coupled to an adjustable member of the actuation system or the jettison mechanism so that the isolation valve can be closed when the
15 poppet valve is actuated to the open position, thereby preventing further flow of the fluid from the fluid source.

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